Amendments to the Claims

This listing will replace all prior versions and listings of claims in the application:

Listing of Claims

Claims 1-20 (canceled)

Claims 21-22

23. (currently amended) A process for preparing a dihydroxyl-functionalized material by hydroxyalkylating a dicarboxylic acid-functionalized material, said process comprising the step of: reacting as reactants: (a) a dicarboxylic acid-functionalized material selected from the group consisting of dicarboxylic acid-functionalized polymers of: polybutadiene, poly(butadiene-co-acrylonitrile), poly(acrylonitrile) and combinations thereof; and (b) a hydroxyalkylating reagent selected from the group consisting of: a carbocyclic carbonate, a carbocyclic sulfite and combinations thereof; in the presence of: (c) a phase transfer catalyst under conditions sufficient to form a dihydroxyl-functionalized material;

wherein said dihydroxyl-functionalized material has a molecular weight that is substantially unchanged relative to the molecular weight of said dicarboxylic acid-functionalized starting material.

24. (original) The process according to claim 23, wherein said dicarboxylic acid-functionalized material has carboxyl-functional groups independently selected from the group consisting of: R and R^1, wherein each R and R^1 is independently selected from the group consisting of: COOH or CAA^1-X-COOH, wherein each A and A^1 is independently selected from the group consisting of: hydrogen, halogen, cyano, linear or branched alkyl having from 1 to about 5 carbon atoms and wherein X is a linear or branched alkyl having from 1 to about 5 carbon atoms.

25. (previously presented) The process according to claim 23, wherein said dicarboxylic acid-functionalized material has a number average molecular weight of from about 3,100 to about 4,200.

26. (previously presented) The process according to claim 23, wherein said hydroxyalkylating reactant is a member selected from the group consisting of carbocyclic carbonate and carbocyclic sulfites.

27. (previously presented) The process according to claim 26, wherein said carbocyclic carbonate is a member selected from the group consisting of ethylene carbonate, 1,3-propylene carbonate, 2-methyl-l,2-ethylene carbonate, 3-methyl-l,3-propylene carbonate, 1,2-dimethyl ethylene carbonate, 2,2-dimethyl butylene carbonate and combinations thereof.

28. (previously presented) The process according to claim 26, wherein said carbocyclic carbonate is ethylene carbonate.

29. (withdrawn) The process according to claim 26, wherein said carbocyclic sulfite is a member selected from the group consisting of ethylene sulfite, propylene sulfites and combinations thereof.

30. (withdrawn) The process according to claim 26, wherein said carbocyclic sulfite is ethylene sulfite.

31. (previously presented) The process according to claim 23, wherein said dihydroxyl-functionalized material is selected from the group consisting of the dihydroxyl-functionalized polymers of: polybutadiene, poly(butadiene-co-acrylonitrile), polyacrylonitrile, and combinations thereof.

32. (withdrawn) The process according to claim 23, further comprising the step of providing an amphoteric treating agent in an amount sufficient to cause said dihydroxyl-functionalized material to separate from the reactants which remain and/or any by-products thereof.

33. (withdrawn) The process according to claim 32, wherein said amphoteric treating agent is a member selected from the group consisting of silicated magnesium oxide, magnesium oxide, magnesium hydroxide, calcium hydroxide, barium hydroxide and combinations thereof.

34. (previously presented) The process according to claim 23, wherein said phase transfer catalyst is a member selected from the group consisting of quaternary ammonium halides, phosphonium halides, sulfonium halides, crown ethers, calixarenes and combinations thereof.

35. (previously presented) The process according to claim 23, wherein said phase transfer catalyst is a member selected from the group consisting of tetrabutyl ammonium iodide, tetraethylammonium iodide, benzyl trimethyl ammonium chloride and ethyl triphenylphosphonium bromide.

36. (previously presented) The process according to claim 23, wherein the molar ratio of said hydroxyalkylating reagent to said dicarboxylic acid-functionalized material is from about 3.8 to about 4.5.

37. (previously presented) The process according to claim 23, wherein said carboxylic acid-functionalized material is a member selected from the group consisting of carboxylic acid-functionalized polybutadiene and carboxylic acid-functionalized poly(butadiene-co-acrylonitrile) .

38. (withdrawn) A diydroxyl-functionalized material prepared by the process of claim 23.

39. (withdrawn) An adhesive, coating or sealant composition having improved toughness and elongation properties and curable through a gap of more than 40 mils, said composition comprising (a) a reaction product of (i) the dihydroxyl-functionalized material according to claim 1, and (ii) a molar excess of a reaction product of a molar excess of an aromatic or cycloaliphatic polyisocyanate and a compound selected from the group consisting of an aromatic or cycloaliphatic polyol, the reaction product of (i) and (ii) subsequently being reacted with a molar excess of a compound selected form the group consisting of a hydroxyalkyl acrylate, a hydroxyalkyl methacrylate, an amino alkyl acrylate, an amino alkyl methacrylate and combinations thereof; and (b) an initiator selected from the group consisting of free radical initiators and photo-initiators.

40. (withdrawn) The composition according to claim 39, wherein said polyisocyante is a member selected from the group consisting of toluene diisocyanate and 4,4'-diisocyanate diphenyl methane; and the reaction product in (a) is an isocyanate-terminated hydrogenated bisphenol-A and toluene diisocyanate.

41. (withdrawn) A process for preparing a dihydroxyl-functionalized material by hydroxyalkylating a dicarboxylic acid-functionalized material, said process comprising the step of: reacting as reactants

(a) a dicarboxylic acid functionalized material selected from the group consisting of dicarboxylic acid-functionalized polymers of polyethylene, polyisoprene, poly(isobutylene), poly(butadiene-co-styrene), poly(butadiene-co-acrylonitrile-co-acrylic acid), poly(ethyl acrylate), poly(ethyl acrylate-co-n-butyl acrylate), poly(n-butyl acrylate-co-acrylonitrile), poly(butyl acrylate-co-styrene), and combinations thereof, with

(b) an hydroxyalkylating reagent selected from the group consisting of carbocyclic carbonates, carbocyclic sulfites, and combinations thereof, in the presence of

(c) a phase transfer catalyst under conditions sufficient to form said dihydroxyl-functionalized material.

42. (withdrawn) The process according to claim 41, wherein said dihydroxyl-functionalized material is selected from the group consisting of dihydroxyl-functionalized polymers of polyethylene, polyisoprene, poly(isobutylene), poly-(butadiene-co-styrene), poly(butadiene-co-acrylonitrile-co-acrylic acid), poly(ethyl acrylate), poly(ethyl acrylate-co-n-butyl acrylate), poly(n-butyl acrylate-co-acrylonitrile), poly(butyl acrylate-co-styrene), and combinations thereof.

43. (previously presented) The process according to claim 23, wherein said dihydroxyl-functionalized material has a molecular weight that is substantially unchanged relative to the molecular weight of said dicarboxylic acid-functionalized starting material.

44. (canceled) The process according to claim 23, wherein said dihydroxyl-functionalized material has a number average molecular weight from about 2.7 to about 3.0 times greater than the molecular weight of said dicarboxylic acid-functionalized material.